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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,798	02/14/2001	David Lawrence Hill	042390P11020	3421

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EXAMINER

CAO, CHUN

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/783,798

Applicant(s)

HILL ET AL.

Examiner

Chun Cao

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6,7 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 19-22 is/are objected to.
- 8) ☒ Claim(s) 8-12 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-22 are presented for examination.
2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current title is imprecise.

Election/Restriction

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-7 and 13-22, drawn to: determining a bootstrap processor in class 713, subclass 1.
 - II. Claims 8-12, drawn to: using a system bus to initiate a bootstrap processor arbitration process, classified in class 710, subclass 107.
4. The inventions are distinct, each from the other because of the following reasons:
 - a. These inventions have acquired a separate status in the art as shown by their different classification;
 - b. The search required for one Group is not required for the other Groups for the reasons above restriction for examination purpose as indicated is proper.
5. During a telephone conversation on Feb. 3, 2004, Mr. Thomas S. Ferrill (registration No. 42,532) elected without traverse to prosecute the invention of Group I, claims 1-7 and 13-22. Affirmation of this election must be made by applicant in replying to this office action. Claims 8-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Claim Rejections - 35 U.S.C. § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 6, 7 and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy (Kennedy), US patent no. 5,659,748 in view of Dove et al. (Dove), US patent no. 5,938,765.

As per claim 1, Kennedy teaches a method comprising:

determining a bootstrap processor from a plurality of processors in a fault tolerant multiprocessor system irrespective of an initialization time of a particular operable processor [col. 2, lines 10-20; col. 9, lines 41-50].

Kennedy fails to teach of determining a bootstrap processor from a plurality of operable processors. In other words, Kennedy fails to determine a plurality of operable processors from a plurality of processors.

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Dove teaches of determining a bootstrap processor [the operating system loader] from a plurality of operable processors [col. 7, lines 6-23; emphasis added, "the operating system loader...processors or nodes passed initialization"]. In summary, Dove chose the operating system loader (BSP) from a plurality of operable processors.

It would have been obvious to one of ordinary skill in the art at time the invention to combine the teachings of Kennedy and Dove because they both teach of determining a bootstrap processor in the system, the specify teachings of Dove stated above would improve the reliability of Kennedy system by only selecting a BSP from a plurality of operable processors.

As per claim 6, Kennedy teaches that a multiprocessor system which continues to be operable irrespective of a fault occurring in any particular processor [col. 9, lines 41-46].

As per claim 7, Dove teaches that the operable processor comprises a processor which has successfully completed an initialization and testing sequence [col. 5, lines 51-57; col. 7, lines 18-22].

9. As per claim 13, Kennedy and Dove together teach the claimed method of steps. Therefore, Kennedy and Dove together teach the claimed system to carry out the method of steps.

As per claim 14, Kennedy discloses that the arbitration protocol comprises micro code instructions [fig. 2; col. 3, lines 55-62; col. 5, lines 1-4].

As per claim 15, Kennedy discloses that the arbitration protocol comprises logic circuitry located in a processor [fig. 1; col. 5, lines 1-14].

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As per claim 16, Kennedy discloses that the arbitration protocol conducts the bootstrap processor arbitration process across the system bus [fig. 1; col. 3, lines 25-36].

As per claim 17, Kennedy discloses that each of the operable processors has a bus controller [126, 138, fig. 1], the bus controller to stall transactional activity on the system bus until the bootstrap processor determination has been made [col. 10, lines 1-6].

10. As per claim 18, Kennedy and Dove together teach the claimed method of steps of claim 1. Therefore, Kennedy and Dove together teach the claimed computer readable media to carry out the method of steps.

Allowable Subject Matter

11. Claims 2-5 and 19-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun Cao at (703) 308-6106. The examiner can

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normally be reached on Monday-Friday from 7:30 am - 4:00 pm. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor Thomas Lee can be reached at (703) 305-9717. The fax number for this Art Unit is following: Official (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 306-5631.

A handwritten signature in black ink, appearing to read 'Chun Cao', with a stylized, cursive script.

Chun Cao

Feb. 4, 2004